

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

VOL. XXVII.

APRIL, 1899.

No. 4

INTRODUCTION.

The MONTHLY WEATHER REVIEW for April, 1899, is based on reports from about 3,000 stations furnished by paid and voluntary observers, classified as follows: regular stations of the Weather Bureau, 154; West Indian service stations, 10; cotton region stations, 127; corn and wheat region stations, 133; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,220; Army post hospital reports, 27; United States Life-Saving Service, 14; Southern Pacific Railway Company, 96; Canadian Meteorological Service, 32; Mexican Telegraphic Service, 20; Mexican voluntary stations, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; the late Dr. Mariano Bárcena, Director of the Central Meteorological and Magnetic Observatory of Mexico; Señor A. M. Chaves, Director-General of Mexican Telegraphs; Mr. Max-

well Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Capt. J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

For the first time in the history of the Weather Bureau forecasts for forty-eight hours in advance were regularly issued from Washington each night during April, 1899, for all States east of the Rocky Mountains.

Warnings of gales of exceptional severity on the coasts and the Great Lakes were not required during April, 1899.

The most notable feature of the month was the group of severe local storms which occurred in Missouri and Iowa on the 27th. The Chicago office of the Weather Bureau issued, on the 26th and 27th, forecasts of thunderstorms for the States named.

The frosts of the month resulted in no serious damage, and were, as a rule, covered by the forecasts and special warnings.

From the 1st to the 4th a barometric depression advanced from the southern Rocky Mountain region to the south Atlantic coast, and from the 5th to the 8th a depression moved from Colorado to New England. These were the only well-marked general storms that reached the Atlantic coast from the west during the month. The storm of the 5-8th was attended by winds of 40 to 60 miles an hour along the Atlantic coast from Hatteras to New York. The most important storm of the month in the western and northwestern States moved from the British Northwest Territory over the northern districts from the 25th to the 28th, attended by severe local

storms in the States of the upper Mississippi Valley, and by thunder squalls in the upper Lake region. In each instance ample warning was given to marine interests of the high winds and squalls referred to.

The following remarks have been made regarding the forecasts and warnings of frost:

The Savannah Morning News, of April 11, 1899—

Some of the farmers had taken warning at the approach of the cold, as predicted by the Weather Bureau, and had covered their crops with a protecting blanket of hay or canvass. Others had exercised no precautions of this character, and, as a consequence, their crops have been more seriously injured.

The Advertiser, Montgomery, Ala., April 11, 1899—

The protracted cool spell which prevailed over the South so long culminated yesterday morning in heavy to killing frosts in Alabama, Mississippi, Georgia, and east Tennessee; in fact heavy frost occurred as far south as Mobile, and light frost was reported from Jacksonville, Fla. The very effective warnings of the Weather Bureau, which were scattered very widely over this section on the 8th, were means of saving a considerable portion of the trucking crops; still very many tender vegetables were nipped by the frost.

The displayman, Mr. D. H. Miller, Crystal Springs, Miss—

The warnings were very timely and beneficial to the truck growers of this vicinity, and gave them ample time to protect their tender vegetables, such as tomatoes and beans. Had it not been for these warnings there would have been considerable damage.